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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,768	11/18/2002	Ming-Hung Lee	MTKP0007USA	9211

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NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)
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EXAMINER	
AGUSTIN, PETER VINCENT	
ART UNIT	**PAPER NUMBER**
2652	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/065,768	LEE ET AL.	
	Examiner	Art Unit	
	Peter Vincent Agustin	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 January 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 2A-4C should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

5. Claim 5 is objected to because of the following informalities:

Claim 5, line 2: "the first memory area" should be --the second memory area--.

Note that base claim 1 recites that the address of the first data block is stored in a "second memory area", and not on the "first memory area".

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites "all the addresses the entries record being greater than the address of the first data block", which recitation is unclear and incomprehensible.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-3 & 5-8 are rejected under 35 U.S.C. 102(a) as being anticipated by the Applicants' admitted prior art (please refer to the Specification filed November 18, 2002 and the Drawings filed January 17, 2003).

In regard to claim 1, the Applicants' admitted prior art discloses a method for using an optical disc drive (Figure 1, element 10) to manage data on an optical disc (22), the optical disc comprising a defect table (Figure 2A: DT) and a plurality of data blocks (Bd) for recording data, each of the data blocks having a corresponding unique address, the defect table comprising at

least one entry (Figure 2B: E), each of the entries being used to record the address (e.g., DN1) of a corresponding defective data block on the optical disc, and the optical disc drive comprising a memory (Figure 1, element 20), the memory comprising a plurality of memory areas (see Figure 3), each of the memory areas being used to store one of the entries, wherein when the optical disc drive writes data onto the optical disc, the optical disc drive is capable of detecting the defective data blocks of the optical disc, the method comprising: allocating at least one first memory area (Figure 4B, element 20: segment labeled "U, DN6, AN6") in the memory, and storing a corresponding entry of the defect table in each of the first memory areas; and storing the address (DN5) of a first data block of the optical disc in an original second memory area (segment labeled "U, DN5, AN13") of the memory before data is written in the first data block if the first data block is defective and if there is at least one address (e.g., DN6, DN7, DN8, etc.), which is greater than the address of the first data block, recorded in the defect table, wherein the second memory area is different from the first memory area.

In regard to claim 2, the Applicants' admitted prior art discloses (as best interpreted by the Examiner in light of the 112-2nd paragraph rejection above) that when the address of the first data block is stored in the second memory area, a number of times needed to modify the entries (e.g., once modified as shown in Figures 4B & 4C) stored in the first memory areas is less than a number of the entries (Figures 4B & 4C show at least 12 entries), the entries being included in the defect table and all of the addresses the entries record being greater than the address of the first data block.

In regard to claim 3, the Applicants' admitted prior art discloses storing the address of a second data block of the optical disc in another second memory area when the second data block is defective (suggested by paragraph 24, lines 1-3: "upon detecting a new defective data block").

In regard to claim 5, the Applicants' admitted prior art discloses restoring the address of the first data block from the first memory area to another memory area of the memory before the optical disc drive stops writing data onto the optical disc if the address stored in the second memory area is less than the address stored in the first memory area (see Figures 4B & 4C).

In regard to claim 6, the Applicants' admitted prior art discloses updating the defect table according to the addresses stored in the first memory areas and the second memory area, and writing the updated defect table in the optical disc before the optical disc drive stops writing data onto the optical disc (see paragraph 23).

In regard to claim 7, the Applicants' admitted prior art discloses that the data blocks and the defect table are established according to a specification of CD-MRW (Compact Disc-Mount Rainier reWritable) (see paragraph 7).

In regard to claim 8, the Applicants' admitted prior art discloses a plurality of spare data blocks (Figure 2A: SA(1), SA(2), etc.) for recording data, which are prepared for the defective data areas, each of the spare data blocks has a corresponding address, and each of the entries of the defect table is also used to record the address of a corresponding spare data block (see Figure 2B: DT).

10. Claims 1-6, 8, 9 & 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Bish et al. (US 5,235,585).

In regard to claim 1, Bish et al. disclose a method for using an optical disc drive (Figure 1) to manage data on an optical disc (11), the optical disc comprising a defect table (Figure 3) and a plurality of data blocks (see Figure 5) for recording data, each of the data blocks having a corresponding unique address, the defect table comprising at least one entry, each of the entries being used to record the address (see first two columns of Figure 3) of a corresponding defective data block on the optical disc, and the optical disc drive comprising a memory (Figure 1, element 8), the memory comprising a plurality of memory areas, each of the memory areas being used to store one of the entries, wherein when the optical disc drive writes data onto the optical disc, the optical disc drive is capable of detecting the defective data blocks of the optical disc, the method comprising: allocating at least one first memory area in the memory, and storing a corresponding entry of the defect table in each of the first memory areas (column 7, lines 9-13); and storing the address (e.g., track 3, sector 5 of Figure 3) of a first data block of the optical disc in an original second memory area of the memory before data is written in the first data block if the first data block is defective and if there is at least one address, which is greater than the address of the first data block, recorded in the defect table, wherein the second memory area is different from the first memory area.

In regard to claim 2, Bish et al. disclose (as best interpreted by the Examiner in light of the 112-2nd paragraph rejection above) that when the address of the first data block is stored in the second memory area, a number of times needed to modify the entries (e.g., once modified as suggested by column 6, lines 27-30) stored in the first memory areas is less than a number of the entries (Figure 3 shows at least 11 entries), the entries being included in the defect table and all of the addresses the entries record being greater than the address of the first data block.

In regard to claim 3, Bish et al. disclose storing the address (e.g., track 5, sector 10 of Figure 3) of a second data block of the optical disc in another second memory area when the second data block is defective.

In regard to claim 4, Bish et al. disclose restoring the address of the first data block in another second memory area and releasing the original second memory area if the address of the second data block is less than the address of the first data block (this is accomplished by the "sorting" recited on the abstract, lines 2-5; column 6, lines 27-30; column 7, lines 20-22; and column 10, lines 57-60).

In regard to claim 5, Bish et al. disclose restoring the address of the first data block from the first memory area to another memory area of the memory before the optical disc drive stops writing data onto the optical disc if the address stored in the second memory area is less than the address stored in the first memory area (see Figure 3).

In regard to claim 6, Bish et al. disclose updating the defect table according to the addresses stored in the first memory areas and the second memory area, and writing the updated defect table in the optical disc before the optical disc drive stops writing data onto the optical disc (column 5, lines 57-61; column 7, lines 16-18).

In regard to claim 8, Bish et al. disclose a plurality of spare data blocks for recording data, which are prepared for the defective data areas, each of the spare data blocks has a corresponding address, and each of the entries of the defect table is also used to record the address of a corresponding spare data block (see last two columns of Figure 3).

In regard to claim 9, Bish et al. disclose a method for using an optical disc drive (Figure 1) to manage data on an optical disc (11), the optical disc comprising a defect table (Figure 3)

and a plurality of data blocks (see Figure 5) for recording data, each of the data blocks having a corresponding unique address, the defect table comprising at least one entry, each of the entries being used to record the address (see first two columns of Figure 3) of a corresponding defective data block on the optical disc, and the optical disc drive comprising a memory (Figure 1, element 8), the memory comprising a first memory area and a second memory area capable of storing a plurality of the entries, wherein when the optical disc drive writes data onto the optical disc, the optical disc drive is capable of detecting the defective data blocks of the optical disc, the method comprising: storing the defect table in the first memory area (column 7, lines 9-13); storing the address (e.g., track 3, sector 5 of Figure 3) of a first data block in the second memory area before data is written in the first data block if the first data block is defective; storing the address (e.g., track 5, sector 10 of Figure 3) of a second data block in the second memory area and sorting the addresses both of the first data block and the second data block if the second data block is defective (abstract, lines 2-5; column 6, lines 27-30; column 7, lines 20-22; and column 10, lines 57-60); and sorting the addresses both of the first data block and the second data block according to the sorting order of the defect table stored in the first memory area (abstract, lines 2-5; column 6, lines 27-30; column 7, lines 20-22; and column 10, lines 57-60), and updating the defect table according to the sorted address stored in the memory before the optical disc drive stops writing data onto the optical disc (column 5, lines 57-61; column 7, lines 16-18).

In regard to claim 11, Bish et al. disclose a method for using an optical disc drive (Figure 1) to manage data on an optical disc (11), the optical disc comprising a defect table (Figure 3) and a plurality of data blocks (see Figure 5) for recording data, each of the data blocks having a corresponding unique address, the defect table at least recording the address of a corresponding

defective data block on the optical disc (see first two columns of Figure 3), and the optical disc drive comprising a memory (Figure 1, element 8) having a first memory area and a second memory area, wherein when the optical disc drive writes data onto the optical disc, the optical disc drive is capable of detecting the defective data blocks of the optical disc, the method comprising: storing the defect table in the first memory area (column 7, lines 9-13); storing the addresses of the defective data blocks (see first two columns of Figure 3), which are detected by the optical disc drive while the optical disc drive writes data onto the optical disc, in the second memory area, and sorting the addresses stored in the second memory area (abstract, lines 2-5; column 6, lines 27-30; column 7, lines 20-22; and column 10, lines 57-60); and combining the addresses of the defect table stored in the first memory area with the addresses stored in the second memory area so as to update the defect table, and writing the updated defect table in the optical disc before the optical disc drive stops writing data onto the optical disc (column 5, lines 57-61; column 7, lines 16-18).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 7, 10 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bish et al. in view of the Applicants' admitted prior art.

For a description of Bish et al., see the rejection above. However, in regard to claims 7, 10 & 12, Bish et al. do not disclose that the data blocks and the defect table are established according to a specification of CD-MRW (Compact Disc-Mount Rainier reWritable).

The Applicants' admitted prior art discloses data blocks and a defect table established according to a specification of CD-MRW (see paragraph 7). It would have been obvious to one of ordinary skill in the art at the time of the invention by the Applicants to have established the data blocks and the defect table of Bish et al. according to a specification of CD-MRW as suggested by the Applicants' admitted prior art, the motivation being to minimize the effects of dust or scratch marks, thereby improving the reliability of a re-writable optical disc.

Citation of Relevant Prior Art

13. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

Shinno et al. (US 5,319,627), Chan (US 5,271,018), Satoh et al. (US 4,774,700), Ichikawa (US 5,132,956), Ito et al. (US 5,715,221), Ko (US 6,408,408), and Park et al. (US 6,453,384) are pertinent to Applicants' disclosure of managing spare blocks of an optical disc.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Vincent Agustin whose telephone number is 703-305-8980. The examiner can normally be reached on Monday-Friday 9:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on 703-305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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2/7/05